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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,961	02/09/2004	Hiroshi Hoshino	4980-0003	5569

7590

12/27/2005

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185 Asylum Street  
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Hartford, CT 06103-3402

EXAMINER
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LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/774,961	<b>Applicant(s)</b> HOSHINO ET AL.	
	<b>Examiner</b> Philip H. Leung	<b>Art Unit</b> 3742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,7,10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Yang (GB 2 260 604) (newly cited).

Yang shows a current-carrying/heating apparatus of a liquid the apparatus comprising: a primary winding 102 wound about an iron core 101 and connected to an AC power supply; and a substantially electrically non-conductive heat pipe 104 (see page 4, lines 12-16) wound about said iron core, having a communication hole (inlet 105) to which the heat exposed liquid is supplied, and constituting an electric closed loop circuit through the heat-exposed liquid supplied to said communication hole, wherein a magnetic flux is generated around said iron core by the current flowing to said primary winding, and a current, induced by an operation of electromagnetic induction of the magnetic flux, flows to the heat-exposed liquid (see Figure 1 and page 4, line 24 - page 5, line 30). The term “liquid food” is only an intended load to be heated and does not add any patentability weights to the claimed structure as Yang is inherently capable of heating any liquid including liquid food as claimed.

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being obvious over Ellis (GB 2 128 860) (previously cited), in view of Wu (US 2005/001884) or Sharpe et al (US 6,681,998) (both newly cited).

Ellis shows a current-carrying/heating apparatus of liquid, the apparatus comprising: a primary winding 8a, 8b wound about one of a plurality of iron-core legs of an iron core 7 and connected to an AC power supply; and a heat pipe 1 wound one turn about an other iron-core leg 6 of said iron core, having a communication hole 2 to which the heat-exposed liquid is supplied, the communication hole continuing in a loop shape formed by distinct first and second communication channels (4 and 5, respectively) extending around and the loop shape providing a channel for the heat-exposed liquid to constitute an electric closed loop circuit through the heat-exposed liquid supplied to said communication hole, wherein a magnetic flux is generated around said iron core by the current flowing to said primary winding, and a current, induced by an operation of electromagnetic induction of the magnetic flux, flows to the heat-exposed liquid

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(see Figure 1 and page 1, lines 73-96). Therefore Ellis shows every feature as claimed except for the shape of the heat pipe as corresponding to the cross-sectional shape of the iron-core leg. Wu shows an induction heating liquid including a primary winding 2 wound on an iron core 1 and liquid carrying tubes 5 which is rectangular and corresponding to the cross-sectional shape of the core 1 (see all Figures and paragraphs [23] – [0032]). Sharpe also shows an induction fluid heating device with a tube 120 passing through a coil 110. The fluid tube 120 may be circular, oval or square shapes tube (see Figures 1 and 2 and col. 3, line 15 – col. 4, line 37). It would have been obvious to an ordinary skill in the art at the time of invention to modify Ellis to use a heat pipe with any well known suitable cross-sectional shape, round or rectangular to match with the core shape for better heating result, in view of the teaching of Wu or Sharpe. . In regard to claim 4, Ellis also shows a supply portion (before input 2) in which a supply hole communicating with said communication hole is provided and which supplies the heat-exposed liquid into said communication hole; and an exhaust portion (output 3) in which an exhaust hole communicating with said communication hole is provided and which exhausts the heat-exposed liquid from said communication hole, and the liquid is heated while continuously flowing into said communication hole (see Figure 1).

5. Applicant's arguments with respect to claims 1, 4 and 13 have been considered but are moot in view of the new ground(s) of rejection.

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6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

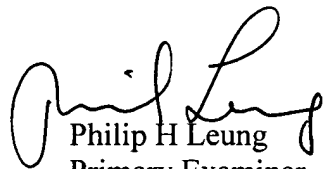
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 472-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Philip H Leung  
Primary Examiner  
Art Unit 3742

P.Leung/pl  
12-21-2005